

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s)	: Dror Segal et al	Examiner	: Timothy M Harbeck
Serial No.	: 09/774,768	Confirmation No.	: 5534
Filed	: January 31, 2001	Group Art Unit	: 2143
For	: VIRTUAL TRADING FLOOR SYSTEM AND METHOD		

APPEAL BRIEF

TABLE OF CONTENTS

I.	REAL PARTY IN INTEREST	3
II.	RELATED APPEALS AND INTERFERENCES.....	4
III.	STATUS OF CLAIMS	5
IV.	STATUS OF AMENDMENTS.....	6
V.	SUMMARY OF CLAIMED SUBJECT MATTER	11
VI.	GROUND FOR REJECTION TO BE REVIEWED ON APPEAL.....	15
VII.	ARGUMENT.....	16
VIII.	CLAIMS APPENDIX.....	26
IX.	EVIDENCE APPENDIX.....	34
X.	RELATED PROCEEDINGS APPENDIX.....	35

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Commissioner for Patents
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This appeal brief is being filed following Appellant's notice of appeal filed on June 30, 2008 in the above captioned case. Claims 1-20 have been seven times rejected, in non-office actions dated October 20, 2004, March 31, 2005, November 3, 2005, June 2, 2006, and June 15, 2007 and in final office actions dated December 1, 2006 and January 29, 2008. Claims 21 and 22 were added in an amendment dated August 11, 2005 and rejected in subsequent office actions thereafter. Claim 23 was added in an amendment dated April 2, 2007 and rejected thereafter. A notice of appeal was received by the United States Patent and Trademark Office on June 30, 2008.

Appellant submits herewith an amendment pursuant to 37 C.F.R. 41.33, placing the claims in better form for appeal.

Appellant submits concurrently herewith a Petition for a one-month extension of time and the fee pursuant to 37 C.F.R. §1.17(a). With the extension of time, the appeal brief is due by September 30, 2008. Thus, this appeal brief is timely filed. If any additional fee is due or over payment made other than the fee accompanying this submission, Applicant authorizes the Director to charge any such fee, and credit any overpayment, to Deposit Account No. 02-4377. Appellant therefore timely submits an appeal brief in support of claims 1-23.

I. REAL PARTY IN INTEREST

The real party in interest is NEW YORK STOCK EXCHANGE, INC. (hereinafter "NYSE"), having its principal place of business at 11 Wall Street New York, NY 10005, who is the assignee of the entire right, title, and interest in the present application by way of Assignment dated June 7, 2001 and recorded on June 4, 2001 at Reel 011857, Frame 0968.

II. RELATED APPEALS AND INTERFERENCES

None.

III. STATUS OF CLAIMS

Claims 1-7, 11-17, and 23 presently stand finally rejected under 35 U.S.C. § 103(a) as allegedly unpatentable in view of Schmerken (Ivy Schmerken, “Real Liffe or Virtual Reality.” Wall Street & Technology. New York: Jan. 1997. Vol. 15, Iss. 1, p. 70) (“Schmerken”), further in view of Tomasula (Dean Tomasula, “Virtual Trading is Virtually a Reality.” Wall Street & Technology. New York: Oct. 1995. Vol. 13, Iss. 10, p. 44) (“Tomasula”). Claims 8-10 and 18-22 stand finally rejected under 35 U.S.C. § 103(a) in view of *Schmerken* and *Tomasula* and further in view of Marshall, U.S. Patent No. 5,675,746 (“Marshall”).

Claims 1-23 are appealed.

IV. STATUS OF AMENDMENTS

Specification

None.

Claims

Appellants submit herewith an amendment placing the claims in better form for appeal. Appellants propose to amend claims 1, 5, 10, 11, 15, 22, and 23 to make minor typographical corrections as shown below. No new matter is added.

1. (Currently Amended) A method for managing trading and system activity in a trading exchange, the method comprising:

at a centralized location, providing a visual display of trading exchange activity including systems activity and trading activity to a trading exchange supervisor or manager; and

providing an interactive decision support interface coupled to the visual display of trading exchange activity;~~and~~

wherein providing the visual display of trading exchange activity comprises:

maintaining data representing a three dimensional model of said exchange's trading areas, said model including surfaces;

receiving and maintaining in a computer memory data representing trading exchange activity;

generating a two dimensional display representing an aspect view of said three dimensional model selected via the interactive decision support interface, said two dimensional display including perspective views of at least some of said surfaces of said model;

generating alphanumeric images of selected data representing trading exchange activity;

and

mapping said alphanumeric images onto selected ones of said perspective views.

5. (Currently Amended) A method for displaying data representing the operation of an exchange having a trading area including a plurality of trading posts whereat selected securities are traded, comprising:

at a centralized location, providing a visual display of trading exchange activity including systems activity and trading activity to a trading exchange supervisor or manager; and

providing an interactive decision support interface coupled to the visual display of trading exchange activity; ~~and~~

wherein providing the visual display of trading exchange activity comprises:

maintaining data representing a three-dimensional model of said exchange trading area, said model including model portions representing said trading posts;

receiving and maintaining in a computer memory data representing trading of said securities; and

generating a two dimensional display representing an aspect view of said three dimensional model selected via the interactive decision support interface, said selected aspect view including one or more of said model portions representing said trading posts, said model portions having selectable parts being selectable and operative when selected to display further data from said computer memory correlated to said selected parts.

10. (Currently Amended) A method as specified in claim 5, further comprising:
monitoring data processing systems used in said exchange;
identifying exceptional conditions in said data processing systems and the locations of said exchange effected by said exceptional conditions; and

generating image portions representing exceptional conditions of said data processing systems and displaying said exceptional condition image portions in said two dimensional display in correlation with said location of said exchange.

11. (Currently Amended) A system for managing trading and system activity in a trading exchange, the system comprising:

at a centralized location, a visual display of trading exchange activity including systems activity and trading activity;

an interactive decision support interface coupled to the visual display of trading exchange activity; and

a computer system, configured and programmed to:

- (a) maintain data representing a three dimensional model of said exchange trading area, said model including surfaces;
- (b) receive data from said at least one data source;
- (c) format and normalize said data to provide formatted data of a predetermined format;
- (d) store and update said formatted data in at least one memory area;
- (e) generate a two dimensional display image of a three dimensional model from an aspect view of said three dimensional model selected via the interactive decision support interface, said display image having perspective views of at least some of said surfaces of said model;
- (f) generate alphanumeric images of selected data;
- (g) map said alphanumeric images onto selected ones of said perspective views; and

(h) receive commands designating said aspect view and for retrieving further data and updating said display image[;]

15. (Previously Presented) A system for managing trading and system activity in a trading exchange having a trading area including a plurality of trading posts whereat selected securities are traded, the system comprising:

a visual display of data representing the operations of the trading area including a plurality of trading posts whereat selected securities are traded[;];

an interactive decision support interface coupled to the visual display of trading exchange activity; and

a computer system, configured and programmed to:

maintain data representing a three-dimensional model of said trading area, said model including model portions representing said trading posts;

receive and maintain in a computer memory data representing trading of said securities;

and

generate a two dimensional display representing an aspect view of said three dimensional model selected via the interactive decision support interface, said selected aspect view including one or more of said model portions representing said trading posts, said model portions having selectable parts being selectable and operative when selected to display further data from said computer memory correlated to said selected parts.

22. (Currently Amended) A system for displaying data representing the operation of an exchange as specified in claim 15, wherein the computer system is further configured and programmed to receive and maintain in a computer memory real time and historical data

integrated from several sources representing trading of said securities and normalized market data.[.]

23. (Currently Amended) The method of claim 1, further comprising using the interactive decision support interface for at least one of:

- ensuring and enforcing compliance with the trading exchange's financial and operational requirements;

- checking on brokers' sales practices; and

- monitoring specialist operations.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Appellant's claimed subject matter relates to, inter alia, techniques for managing trading and system activity in a trading exchange and for displaying data representing the operation of an exchange having a trading area including a plurality of trading posts whereat selected securities are traded (e.g., an interactive decision support system for monitoring and responding to system and market events displayed within a two dimensional view of a three dimensional system model).

Claim 1 reads:

1. A method for managing trading and system activity in a trading exchange, the method comprising

at a centralized location, providing a visual display of trading exchange activity including systems activity and trading activity to a trading exchange supervisor or manager; and

providing an interactive decision support interface coupled to the visual display of trading exchange activity; and

wherein providing the visual display of trading exchange activity comprises:

maintaining data representing a three dimensional model of said exchange's trading areas, said model including surfaces;

receiving and maintaining in a computer memory data representing trading exchange activity;

generating a two dimensional display representing an aspect view of said three dimensional model selected via the interactive decision support interface, said two dimensional display including perspective views of at least some of said surfaces of said model;

generating alphanumeric images of selected data representing trading exchange activity;
and

mapping said alphanumeric images onto selected ones of said perspective views.

Claim 5 reads:

5. A method for displaying data representing the operation of an exchange having a trading area including a plurality of trading posts whereat selected securities are traded, comprising:

at a centralized location, providing a visual display of trading exchange activity including systems activity and trading activity to a trading exchange supervisor or manager; and

providing an interactive decision support interface coupled to the visual display of trading exchange activity; and

wherein providing the visual display of trading exchange activity comprises:

maintaining data representing a three-dimensional model of said exchange trading area, said model including model portions representing said trading posts;

receiving and maintaining in a computer memory data representing trading of said securities; and

generating a two dimensional display representing an aspect view of said three dimensional model selected via the interactive decision support interface, said selected aspect view including one or more of said model portions representing said trading posts, said model portions having selectable parts being selectable and operative when selected to display further data from said computer memory correlated to said selected parts.

Claim 11 reads:

11. A system for managing trading and system activity in a trading exchange, the system comprising:

at a centralized location, a visual display of trading exchange activity including systems activity and trading activity;

an interactive decision support interface coupled to the visual display of trading exchange activity; and

a computer system, configured and programmed to:

(a) maintain data representing a three dimensional model of said exchange trading area, said model including surfaces;

(b) receive data from said at least one data source;

(c) format and normalize said data to provide formatted data of a predetermined format;

(d) store and update said formatted data in at least one memory area;

(e) generate a two dimensional display image of a three dimensional model from an aspect view of said three dimensional model selected via the interactive decision support interface, said display image having perspective views of at least some of said surfaces of said model;

(f) generate alphanumeric images of selected data;

(g) map said alphanumeric images onto selected ones of said perspective views; and

(h) receive commands designating said aspect view and for retrieving further data and updating said display image;

Claim 15 reads:

15. A system for managing trading and system activity in a trading exchange having a trading area including a plurality of trading posts whereat selected securities are traded, the system comprising:

a visual display of data representing the operations of the trading area including a plurality of trading posts whereat selected securities are traded,

an interactive decision support interface coupled to the visual display of trading exchange activity; and

a computer system, configured and programmed to:

maintain data representing a three-dimensional model of said trading area, said model including model portions representing said trading posts;

receive and maintain in a computer memory data representing trading of said securities;

generate a two dimensional display representing an aspect view of said three dimensional model selected via the interactive decision support interface, said selected aspect view including one or more of said model portions representing said trading posts, said model portions having selectable parts being selectable and operative when selected to display further data from said computer memory correlated to said selected parts.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. The final rejection of claims 1-7, 11-17, and 23 under 35 U.S.C. § 103(a) as allegedly unpatentable in view of *Schmerken* and *Tomasula* and the final rejections of claims 8-10 and 18-22 under 35 U.S.C. § 103(a) in view of *Schmerken*, *Tomasula*, and *Marshall*.

VII. ARGUMENT

The final Office Action dated January 29, 2008 improperly rejects claims 1-7, 11-17, and 23 as allegedly unpatentable under 35 U.S.C. § 103(a) in view of *Schmerken* and *Tomasula* and claims 8-10 and 18-22 as allegedly unpatentable under 35 U.S.C. § 103(a) in view of *Schmerken*, *Tomasula*, and *Marshall* and should be reversed at least in view of the arguments below.

THE PREAMBLE OF CLAIMS 1 AND 11 SHOULD BE ACCORDED PATENTABLE WEIGHT

The Examiner, in the final office action of January 29, 2008, argued, by mere assertion, that the recitation of “[a] method for managing trading and system activity in a trading exchange” lacks “patentable weight” “because the recitation occurs in the preamble.” According to the Examiner, “[a] preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure...” Final Office Action of January 29, 2008, p. 2 (emphasis added). The Examiner provided no additional justification or analysis of claim 1 in rejecting Appellant’s assertion that the preamble distinguishes over the cited art beyond stating the general effect of a preamble.

“The determination of whether a preamble limits a claim is made on a case-by-case basis in light of the facts in each case; there is no litmus test defining when a preamble limits the scope of a claim. *Catalina Mktg. Int’l v. Coolsavings.com, Inc.*, 289 F.3d 801, 808, 62 USPQ2d 1781, 1785 (Fed. Cir. 2002).” MPEP § 2111.02. “A claim preamble has the import that the claim as a whole suggests for it.” *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620 (Fed. Cir. 1995). “If the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is

'necessary to give life, meaning, and vitality' to the claim, then the claim preamble should be construed as if in the balance of the claim." *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999). "When limitations in the body of the claim rely upon and derive antecedent basis from the preamble, then the preamble may act as a necessary component of the claimed invention." *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1306 (Fed. Cir. 2005) (quoting *Eaton Corp. v. Rockwell Int'l Corp.*, 323 F.3d 1332, 1339 (Fed. Cir. 2003)). Clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art transforms the preamble into a claim limitation because such reliance indicates use of the preamble to define, in part, the claimed invention. *Catalina*, 289 F.3d at 808-09 (Fed. Cir. 2002).

Claim 1 recites:

a method for managing trading and system activity in a trading exchange, the method comprising

at a centralized location, providing a visual display of trading exchange activity including systems activity and trading activity to a trading exchange supervisor or manager; and

providing an interactive decision support interface coupled to the visual display of trading exchange activity; and

wherein providing the visual display of trading exchange activity comprises:

maintaining data representing a three dimensional model of said exchange's trading areas, said model including surfaces;

receiving and maintaining in a computer memory data representing trading exchange activity;

generating a two dimensional display representing an aspect view of said three dimensional model selected via the interactive decision support interface, said two dimensional display including perspective views of at least some of said surfaces of said model;

generating alphanumeric images of selected data representing trading exchange activity; and

mapping said alphanumeric images onto selected ones of said perspective views.

The preamble of “a method for managing trading and system activity in a trading exchange” provides antecedent basis for the terms “systems activity,” “trading activity,” “trading exchange activity,” and “trading exchange” found throughout claim 1. For example, claim 1 recites “at a centralized location, providing a visual display of trading exchange activity including systems activity and trading activity to a trading exchange supervisor or manager” and “maintaining data representing a three dimensional model of said exchange’s trading areas.” (emphasis added). Accordingly, the preamble provides antecedent basis for terms within claim 1 and should be given patentable weight.

Furthermore, Appellants relied on the preamble in defining claim 1 over the cited art. As originally filed, claim 1 recited “A method for displaying data representing the operation of an exchange.” In an office action dated June 15, 2007, the Examiner rejected claim 1 under 35 U.S.C. § 103(a) as unpatentable in view of Schmerken and Tomasula. Subsequently, Appellants amended claim 1 to recite the current preamble “a method for managing trading and system activity in a trading exchange.” Amendment dated November 15, 2007, p. 2.

Accordingly, Appellants attempted to define claim 1 over the cited art, thereby transforming the preamble and giving the preamble patentable weight.

Accordingly, the preamble of claim 1 should be accorded patentable weight.

Claim 11 includes a similar preamble to claim 1 and the preamble thereto, at least for the same reasons as claim 1, should be given patentable weight.

CLAIMS 1-23 DEFINE OVER THE CITED ART

THE EXAMINER IMPROPERLY COMBINES SCHMERKEN AND TOMASULA BECAUSE SCHMERKEN EXPLICITLY TEACHES AWAY FROM TOMASULA

As stated, *Tomasula* describes a virtual reality system for allowing remote traders conducting trading business to interact on a single virtual trading floor. *Tomasula*, p. 2. However, *Schmerken* expressly teaches away from the use of virtual reality for trading activity: “The Exchange has not and does not intend to extend the use of [virtual reality] technology for the purposes of trading.” *Schmerken*, p. 2. Therefore, one of ordinary skill in the art would not combine *Schmerken* with *Tomasula* to arrive at the subject matter of claim 1 because *Schmerken* expressly discourages the use of the techniques in *Tomasula* in combination with the techniques of *Schmerken*.

Therefore, Appellants submit that it is, in the first instance, improper for the Office Action to combine *Tomasula* with *Schmerken*. Appellants request reversal of the rejection to claim 1 and its dependent claims 2-4 and 23. Because claims 5, 11, and 15 include similar features to claim 1 and the Examiner has combined *Schmerken* and *Tomasula* to reject these claims, Appellants likewise request reversal of the rejections to these claims and their dependent claims 6-10, 12-14, and 16-22 at least for the same reasons as claim 1.

SCHMERKEN AND TOMASULA FAIL TO TEACH OR SUGGEST “A METHOD FOR MANAGING TRADING AND SYSTEM ACTIVITY IN A TRADING EXCHANGE” AS REQUIRED BY CLAIM 1.

Having established that the preamble of claim 1 should be accorded patentable weight, neither *Schmerken* nor *Tomasula* teaches or suggests “a method for managing trading and system activity in a trading exchange”

Tomasula is directed to the use of virtual reality to “integrate a group of traders by audio, video, and data communications into a single unit” (e.g., a trading floor.) *Tomasula*, Abstract. *Tomasula* describes face to face or conversational communication between traders who are perhaps located in different cities. *Id.* p. 2. For example:

On the virtual trading floor, this interaction will be accomplished by video and audio conferencing. Through application sharing -- or the use of so-called groupware --more than one trader can work simultaneously in the same application like a spreadsheet or word processor. Geographically diverse traders can interact in real-time to what's happening in the market as if they are physically in the same space.

Id. p. 2.

While *Tomasula* arguably describes interaction between traders, nowhere does *Tomasula* teach or suggest “managing trading and system activity” as required by claim 1 (emphasis added). For example, see Specification paragraphs [0038]-[0040].

Schmerken is directed to a virtual reality system for checking sight lines between the booth and the pits in a trading environment. *Schmerken* arguably describes a virtual reality system for linking multiple exchanges into one virtual trading environment. Users can hear and see various aspects of the trading floors:

At the show, attendees could don a headset heavier than a football helmet called Visette2, and a padded joystick called Flexor, then stand in Liffe's trading pit and grab objects, and move around to enter the levels of the pit. By swinging your head, you can even view the ceiling and walls. In Liffe's trading space, "that's how your populate the pits. You can turn the videos on and move monitors."

Schmerken, p. 2.

But despite describing the ability to observe the trading floors, nowhere does *Schmerken* teach or suggest managing trading and system activity in a trading exchange as recited in claim 1. Therefore, neither *Schmerken* nor *Tomasula* teach or suggest “a method for managing trading and system activity in a trading exchange” as recited in claim 1. Appellant respectfully requests reversal of the rejection to claim 1 and its dependent claims 2-4 and 23. Because claim 11 includes a similar preamble, Appellants request reversal of the rejections to claim 11 and its dependent claims 12-14 at least for the same reasons as claim 1.

SCHMERKEN AND *TOMASULA* FAIL TO TEACH OR SUGGEST “AT A CENTRALIZED LOCATION, PROVIDING A VISUAL DISPLAY OF TRADING EXCHANGE ACTIVITY INCLUDING SYSTEMS ACTIVITY AND TRADING ACTIVITY TO A TRADING EXCHANGE SUPERVISOR OR MANAGER” AS REQUIRED BY CLAIM 1.

Neither *Schmerken* nor *Tomasula* teaches or suggests “providing a visual display of trading exchange activity including systems activity and trading activity” or providing said visual display “to a trading exchange supervisor or manager.”

As already stated, *Schmerken* is directed to a system for allowing a user to observe a trading floor. Users donning the helmet can observe monitors in the trading pit. *Schmerken*, p. 2. However, nowhere does *Schmerken* provide a visual display of “systems activity” as contemplated by claim 1. In the present specification, according to one embodiment, “System exceptions can include server down, book down, stock down, loss of floor connectivity, and loss of host connectivity, among other things.” Specification paragraph [0040]. Appellant submits that the type of activity contemplated by “systems” activity is wholly different than the type of activity observed by the techniques of *Schmerken*.

Similarly, *Tomasula* describes the use of audio and video to facilitate interactions between traders. Therefore, *Tomasula* likewise fails to teach or suggest providing a visual display including “systems activity” as contemplated by claim 1.

Furthermore, neither *Schmerken* nor *Tomasula* teaches or suggests providing a display “to a trading exchange supervisor or manager” as contemplated by claim 1. To begin, in section 13 of the Final Office Action dated January 29, 2008, the Examiner admits that *Schmerken* fails to explicitly disclose this feature but improperly concludes that this feature is obvious from the disclosure of *Schmerken*: “it would be obvious to a person having ordinary skill in the art at the time of the invention that a supervisor or manager of the system would be essential to the invention because in order to have a virtual trading system, either a person or company would have to oversee the use of the system. Furthermore, it would be obvious that the manager or supervisor would oversee the system by viewing the activity.” Final Office Action dated January 29, 2008 § 13. In other words, the Examiner states that this feature is obvious because any trading system requires oversight and supervisors would need to view the activity of the trading system.

Even if the Examiner’s assertion is correct, the Examiner fails to view this feature in the full context of claim 1. Claim 1 recites, *inter alia*,

at a centralized location, providing a visual display of trading exchange activity including systems activity and trading activity to a trading exchange supervisor or manager wherein providing the visual display of trading exchange activity comprises: maintaining data representing a three dimensional model of said exchange’s trading areas, said model including surfaces generating a two dimensional display representing an aspect view of said three dimensional model selected via the interactive decision support interface, said two dimensional display including perspective views of at least some of said surfaces of said model.

Nowhere does *Schmerken* disclose oversight of a trading system using a two dimensional view of a three dimensional model of the trading system as contemplated by claim 1. Similarly, *Tomasula* describes providing visual displays to support interactions between traders, not involving either supervisors or managers. *Tomasula*, p. 2.

Accordingly, neither *Schmerken* nor *Tomasula* teaches or suggests “at a centralized location, providing a visual display of trading exchange activity including systems activity and trading activity to a trading exchange supervisor or manager” as recited in claim 1. Therefore, claim 1 defines over the cited art. Appellants request reversal of the rejections of claim 1 and, at least because of their dependency from claim 1, claims 2-4 and 23. Claims 5, 11, and 15 include the same or similar feature as claim 1. For at least the same reasons as claim 1, Appellants request reversal of the rejections to claims 5, 11, 15, and, at least because of their dependency therefrom, their respective dependent claims 6-10, 12-14, and 16-22.

SCHMERKEN AND TOMASULA FAIL TO TEACH OR SUGGEST
 “PROVIDING AN INTERACTIVE DECISION SUPPORT INTERFACE COUPLED TO THE VISUAL DISPLAY OF TRADING EXCHANGE ACTIVITY” AS REQUIRED BY CLAIM 1.

As a preliminary matter, the Examiner, in the final office action of January 29, 2008, improperly characterizes “interactive decision support interface” as a “three dimensional trading floor system” and “a virtual representation of the trading floor.” The Examiner asserts that *Tomasula* discloses this feature. Final Office Action dated January 29, 2008 § 9.

According to one embodiment described in paragraph [0009], “[t]he interactive decision support system is a virtual representation of the trading floor that enables operators... to pinpoint complex systems and stock related activity with visual clarity.” (emphasis added). “In

addition, the interactive decision support system provides a user with a means to supervise market activity to ensure and enforce compliance with financial and operational requirements, perform periodic checks on broker's sales practices, and monitor specialist operations." *Id.*

In contrast to the Examiner's assertion, *Tomasula* fails to disclose the "interactive decision support system" as contemplated by claim 1. *Tomasula* merely describes a conventional ATM system having plural conventional multimedia (i.e. "audio, video, and data communications") interactions between multiple traders (including "direct conversations" "application sharing," "video" for "seeing the face of the person" etc.). (See *Tomasula* page 46 first and second paragraphs , and all paragraphs under the heading "Trader Interactions" and under the heading "MultiMedia Desks").

Nothing in *Tomasula* allows an operator to pinpoint complex systems and stock related activity. *Tomasula* describes a system that allows traders to interact at remote locations, not a system for use by system operators. Nowhere does *Tomasula* describe a system capable of supervising market activity to ensure and enforce compliance with financial and operational requirements, performing periodic checks on broker's sales practices, and monitoring specialist operations.

Likewise, nothing in *Schmerken* teaches or suggests providing an interactive decision support interface. The Examiner admits this fact on page 5 of the final office action dated January 29, 2008.

Accordingly, neither *Schmerken* nor *Tomasula*, taken alone or in combination, teaches or suggests "providing an interactive decision support interface coupled to the visual display of trading exchange activity" as required by claim 1. Appellants therefore request

reversal of the rejections to claim 1, and at least because of their dependence thereto, claims 2-4 and 23. For at least the same reasons as claim 1, Appellants request reversal of the rejections to claims 5, 11, 15, and, at least because of their dependency therefrom, their respective dependent claims 6-10, 12-14, and 16-22.

VIII. CLAIMS APPENDIX

The rejection of the following claims 1-23 is appealed.

1. A method for managing trading and system activity in a trading exchange, the method comprising

at a centralized location, providing a visual display of trading exchange activity including systems activity and trading activity to a trading exchange supervisor or manager; and

providing an interactive decision support interface coupled to the visual display of trading exchange activity; and

wherein providing the visual display of trading exchange activity comprises:

maintaining data representing a three dimensional model of said exchange's trading areas, said model including surfaces;

receiving and maintaining in a computer memory data representing trading exchange activity;

generating a two dimensional display representing an aspect view of said three dimensional model selected via the interactive decision support interface, said two dimensional display including perspective views of at least some of said surfaces of said model;

generating alphanumeric images of selected data representing trading exchange activity; and

mapping said alphanumeric images onto selected ones of said perspective views.

2. A method as specified in claim 1 wherein there is provided the further steps of:

changing said selected aspect view of said three dimensional model;

generating a further two dimensional display representing said changed aspect view, said further two dimensional display including further perspective views of at least some of said surfaces of said model; and

mapping said alphanumeric images onto selected ones of said further perspective views in said further two-dimensional display.

3. A method as specified in claim 1 wherein portions of said two dimensional display are selectable, said selectable display portions being operable when selected for displaying further data correlated to said selectable display portions.

4. A method as specified in claim 3 wherein at least some of said selectable display portions comprise said perspective aspect views, and wherein said further data is correlated to data represented by said alphanumeric images mapped onto said perspective aspect views.

5. A method for displaying data representing the operation of an exchange having a trading area including a plurality of trading posts whereat selected securities are traded, comprising:

at a centralized location, providing a visual display of trading exchange activity including systems activity and trading activity to a trading exchange supervisor or manager; and

providing an interactive decision support interface coupled to the visual display of trading exchange activity; and

wherein providing the visual display of trading exchange activity comprises:

maintaining data representing a three-dimensional model of said exchange trading area, said model including model portions representing said trading posts;

receiving and maintaining in a computer memory data representing trading of said securities; and

generating a two dimensional display representing an aspect view of said three dimensional model selected via the interactive decision support interface, said selected aspect view including one or more of said model portions representing said trading posts, said model portions having selectable parts being selectable and operative when selected to display further data from said computer memory correlated to said selected parts.

6. A method as specified in claim 5, wherein said model portions representing said trading posts include surfaces and wherein said step of generating a two-dimensional display further comprises:

generating alphanumeric images relating to securities traded at a selected trading post and mapping said alphanumeric images into selected ones of said surfaces in said two-dimensional display, and wherein said surfaces being operative when selected to display further data correlated to said related securities.

7. A method as specified in claim 4, wherein said alphanumeric images comprise identification of said securities.

8. A method as specified in claim 5, further comprising:

analyzing said data representing trading of said securities and identifying exceptional conditions relating thereto, generating image portions representing said exceptional conditions, and displaying said exceptional condition image portions in said two-dimensional display in correlation with display of model portions representing said trading posts at which said securities are traded.

9. A method as specified in claim 8 wherein said exceptional condition image portions are selectable and operative when selected to display further data concerning said exceptional condition.

10. A method as specified in claim 5, further comprising:

monitoring data processing systems used in said exchange;

identifying exceptional conditions in said data processing systems and the locations of said exchange effected by said exceptional conditions;

generating image portions representing exceptional conditions of said data processing systems and displaying said exceptional condition image portions in said two dimensional display in correlation with said location of said exchange.

11. A system for managing trading and system activity in a trading exchange, the system comprising:

at a centralized location, a visual display of trading exchange activity including systems activity and trading activity;

an interactive decision support interface coupled to the visual display of trading exchange activity; and

a computer system, configured and programmed to:

(a) maintain data representing a three dimensional model of said exchange trading area, said model including surfaces;

(b) receive data from said at least one data source;

(c) format and normalize said data to provide formatted data of a predetermined format;

(d) store and update said formatted data in at least one memory area;

(e) generate a two dimensional display image of a three dimensional model from an aspect view of said three dimensional model selected via the interactive decision support interface, said display image having perspective views of at least some of said surfaces of said model;

(f) generate alphanumeric images of selected data;

(g) map said alphanumeric images onto selected ones of said perspective views; and

(h) receive commands designating said aspect view and for retrieving further data and updating said display image;

12. A system for providing an interactive display of data as specified in claim 11 wherein the computer system is further configured and programmed to:

change said selected aspect view of said three dimensional model;

generate a further two dimensional display representing said changed aspect view, said further two dimensional display including further perspective views of at least some of said surfaces of said model; and

map said alphanumeric images onto selected ones of said further perspective views in said further two-dimensional display.

13. A system for providing an interactive display of data as specified in claim 11 wherein portions of said two dimensional display are selectable, said selectable display portions being operable when selected for displaying further data correlated to said selectable display portions.

14. A system for providing an interactive display of data as specified in claim 13 wherein at least some of said selectable display portions comprise said perspective aspect views, and

wherein said further data is correlated to data represented by said alphanumeric images mapped onto said perspective aspect views.

15. A system for managing trading and system activity in a trading exchange having a trading area including a plurality of trading posts whereat selected securities are traded, the system comprising:

- a visual display of data representing the operations of the trading area including a plurality of trading posts whereat selected securities are traded,

- an interactive decision support interface coupled to the visual display of trading exchange activity; and

- a computer system, configured and programmed to:

- maintain data representing a three-dimensional model of said trading area, said model including model portions representing said trading posts;

- receive and maintain in a computer memory data representing trading of said securities;

- generate a two dimensional display representing an aspect view of said three dimensional model selected via the interactive decision support interface, said selected aspect view including one or more of said model portions representing said trading posts, said model portions having selectable parts being selectable and operative when selected to display further data from said computer memory correlated to said selected parts.

16. A system for displaying data representing the operation of an exchange as specified in claim 15, wherein said model portions representing said trading posts include surfaces and wherein the computer system is further configured and programmed to:

- generate alphanumeric images relating to securities traded at a selected trading post and

map said alphanumeric images into selected ones of said surfaces in said two-dimensional display, and wherein said surfaces being operative when selected to display further data correlated to said related securities.

17. A system for displaying data representing the operation of an exchange as specified in claim 16, wherein said alphanumeric images comprise identification of said securities.

18. A system for displaying data representing the operation of an exchange as specified in claim 15, wherein the computer system is further configured and programmed to:

analyze said data representing trading of said securities and identifying exceptional conditions relating thereto;

generate image portions representing said exceptional conditions; and

display said exceptional condition image portions in said two-dimensional display in correlation with said display of model portions representing said trading posts at which said securities are traded.

19. A system for displaying data representing the operation of an exchange as specified in claim 18 wherein said exceptional condition image portions are selectable and operative when selected to display further data concerning said exceptional condition.

20. A system for displaying data representing the operation of an exchange as specified in claim 15, wherein the computer system is further configured and programmed to:

monitor data processing systems used in said exchange;

identify exceptional conditions in said data processing systems and the locations of said exchange effected by said exceptional conditions;

generate image portions representing exceptional conditions of said data processing systems; and

display said exceptional condition image portions in said two dimensional display in correlation with said location of said exchange.

21. A system for displaying data representing the operation of an exchange as specified in claim 15, wherein the computer system is further configured and programmed to receive and maintain in a computer memory real time and historical data integrated from several sources representing trading of said securities.

22. A system for displaying data representing the operation of an exchange as specified in claim 15, wherein the computer system is further configured and programmed to receive and maintain in a computer memory real time and historical data integrated from several sources representing trading of said securities and normalized market data.

23. The method of claim 1, further comprising using the interactive decision support interface for at least one of:

ensuring and enforcing compliance with the trading exchange's financial and operational requirements;

checking on brokers' sales practices; and

monitoring specialist operations.

IX. EVIDENCE APPENDIX

None.

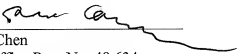
X, RELATED PROCEEDINGS APPENDIX

None.

For the foregoing reasons, the Examiner' rejections of claims 1-23 should be reversed.

Respectfully submitted,

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